



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,027	04/01/2004	Mikio Ishii	450100-05005	9327
7590 02/02/2009				
William S. Frommer, Esq. FROMMER LAWRENCE & HAUG LLP 745 Fifth Avenue New York, NY 10151				
EXAMINER				
HOLDER, ANNER N				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
02/02/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/816,027

**Applicant(s)**

ISHII ET AL.

**Examiner**

ANNER HOLDER

**Art Unit**

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/05/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 6, 7, 9, 11, 12-14, 16, 18, 19-21, 23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (Miller) US 5,146,324 in view of Katata et al. (Katata) US 6,714,591 B1 further in view Elmaliach et al. US 5,847,760.
4. As to claim 1, Miller teaches a dividing section which divides the inputted digital image signals into plural macro blocks of orthogonal-transformation blocks for each frame; [Col. 5 Lines 5-13] a shuffling section which rearranges the macro blocks in each frame into groups and creates macro block units for every group; [Fig. 1 (10); Col. 5 Lines 11-14] and a compression-encoding section which compression-encodes the digital image signals for every macro block unit consisting of plural macro blocks rearranged by the shuffling section, [Fig. 1 (45)] wherein the shuffling section rearranges the macro blocks of the first digital image signals, based on a method of

Art Unit: 2621

rearranging the macro blocks of the second digital image signals. [Fig. 1 (10); Col. 5 Lines 11-20]

Miller is silent as to input first signal and a second signal digital image signals having frame rates different from each other, based on a same encoding system.

Katata teaches input first and second digital image signals having frame rates different from each other, based on a same encoding system. [Abstract; Fig. 2; Fig. 4; Fig. 8; Fig. 10; Fig. 12; Fig. 14; Col. 4 lines 52-60; Col. 9 lines 34-42; Col. 10 lines 52-59; Col. 11 lines 7-10]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Katata with the device of Miller improving video efficiency of encoding and image quality. [Katata – Col. 11 lines 11-12; Col. 2 lines 24-25]

Miller modified Katata does not explicitly teach grouping frames based on the frame rate.

Elmaliach teaches grouping frames based on the frame rate. [abstract; fig. 1; col. 3 lines 49-65; col. 4 lines 4-21; col. 5 lines 15-23; col. 6 lines 21-45, 5-61]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Elmaliach with the device of Miller modified by Katata providing and managing real time variable bandwidth video. [col. 1 lines 61-63]

5. As to claim 2, Miller (modified by Katata and Elimaliach) teaches the shuffling section rearranges the divided macro blocks of the second digital image signals into a layout in which the divided macro blocks of the second digital image signals are arranged mutually in a dispersed position. [Col. 5 Lines 11-20]
6. As to claim 4, Miller (modified by Katata and Elimaliach) teaches the compression-encoding section compression-encodes the digital image signals, based on a 4:2:2 format or 4:4:4 format. [Col. 4 Lines 20-25]
7. As to claim 6, see rejection of claim 1, except this is a claim to a compression-encoding method with the same limitations as claim 1.
8. As to claim 7, see rejection of claim 2, except this is a claim to a compression-encoding method with the same limitations as claim 2.
9. As to claim 11, see discussion of claim 1 above for common subject matter.

Miller (modified by Katata and Elimaliach) teaches recording section which records the digital image signals compression-encoded by the compression-encoding section, assigning the digital image signals to each track of the recording medium, for every macro block unit. [Abstract; Col. 1 Lines 7-15; Col. 3 Lines 34-37]

10. As to claim 12, Miller (modified by Katata and Elimaliach) teaches the shuffling section forms the macro block units each of those plural macro blocks that are divided by the dividing section and discretely exist in a frame. [Col. 5 Lines 11-20]
11. As to claim 13, Miller (modified by Katata and Elimaliach) teaches the recording section selects one or more macro block units to be assigned to each track of the

recording medium. [Col. 1 Lines 7-15; Col. 3 Lines 44-48; Col. 4 Lines 50-62; Col.7 Lines 4-8]

12. As to claim 14, Miller (modified by Katata and Elimaliach) teaches the recording section assigns the macro block units to each track of the recording medium, positioning discretely those macro blocks that are divided by the dividing section and are adjacent to each other. [Col. 1 Lines 7-15; Col. 3 Lines 44-48; Col. 4 Lines 50-62; Col.7 Lines 4-8]

13. As to claim 16, see rejection of claim 4, except this is a claim to a recorder with the same limitations as claim 4.

14. As to claim 18, see rejection of claim 11, except this is a claim to a recording method with the same limitations as claim 11.

15. As to claim 19, see rejection of claim 12, except this is a claim to a recording method with the same limitations as claim 12.

16. As to claim 20, see rejection of claim 13, except this is a claim to a recording method with the same limitations as claim 13.

17. As to claim 21, see rejection of claim 14, except this is a claim to a recording method with the same limitations as claim 14.

18. As to claim 23, see rejection of claim 16, except this is a claim to a recording method with the same limitations as claim 16.

19. As to claim 25, Miller teaches a dividing section which divides the first digital image signals into plural macro blocks for each frame as well as the second digital image signals into plural macro blocks for each frame; [Col. 5 Lines 5-13] a shuffling

section which rearranges the plural macro blocks in each frame of the second digital image signals into groups and creates macro block units for every group, wherein the second digital image signals are rearranged into a layout of the plural macro blocks of the first digital image signals, into a layout of macro blocks units which is equivalent to that of the first digital image signals; [Fig. 1 (10); Col. 5 Lines 11-14; Fig. 1 (45)] and a compression-encoding section which compression-encodes the digital image signals for every macro block unit consisting of plural macro blocks rearranged by the shuffling section. [Fig. 1 (10); Col. 5 Lines 11-20]

Miller is silent as to input first signal and a second signal digital image signals having frame rates different from each other, based on a same encoding system.

Katata teaches input first and second digital image signals having frame rates different from each other, based on a same encoding system. [Abstract; Fig. 2; Fig. 4; Fig. 8; Fig. 10; Fig. 12; Fig. 14; Col. 4 lines 52-60; Col. 9 lines 34-42; Col. 10 lines 52-59; Col. 11 lines 7-10]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Katata with the device of Miller improving video efficiency of encoding and image quality. [Katata – Col. 11 lines 11-12; Col. 2 lines 24-25]

Miller modified Katata does not explicitly teach grouping frames based on the frame rate.

Elmaliach teaches groping frames based on the frame rate. [abstract; fig. 1; col. 3 lines 49-65; col. 4 lines 4-21; col. 5 lines 15-23; col. 6 lines 21-45, 5-61]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Elmaliach with the device of Miller modified by Katata providing and managing real time variable bandwidth video. [col. 1 lines 61-63]

20. As to claim 26, see rejection of claim 25, except this is a claim to a Compression-encoding method with the same limitations as claim 25.

21. As to claim 27, Miller teaches a dividing section which divides the first digital image signals into plural macro blocks for each frame as well as the second digital image signals into plural macro blocks for each frame; [Col. 5 Lines 5-13] a shuffling section which rearranges the plural macro blocks in each frame of the second digital image signals into groups and creates macro block units for every group each including plural macro blocks, based on a layout of the plural macro blocks of the first digital image signals, wherein the second digital image signals are rearranged into a layout of macro blocks units which is equivalent to that of the first digital image signals; [Fig. 1 (10); Col. 5 Lines 11-14; Fig. 1 (45)] a compression-encoding section which compression-encodes the digital image signals every macro block unit consisting of plural macro blocks rearranged by the shuffling section; [Fig. 1 (10); Col. 5 Lines 11-20] and a recording section which records the digital image signals, [Abstract; Col. 1 Lines 7-15; Col. 3 Lines 34-37] assigning the digital image signals to tracks of the recording



Art Unit: 2621

medium, for every macro block unit. [Fig. 1 (10); Col. 1 Lines 7-15; Col. 3 Lines 44-48; Col. 4 Lines 50-62; Col.7 Lines 4-8]

Miller is silent as to input first signal and a second signal digital image signals having frame rates different from each other, based on a same encoding system.

Katata teaches input first and second digital image signals having frame rates different from each other, based on a same encoding system. [Abstract; Fig. 2; Fig. 4; Fig. 8; Fig. 10; Fig. 12; Fig. 14; Col. 4 lines 52-60; Col. 9 lines 34-42; Col. 10 lines 52-59; Col. 11 lines 7-10]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Katata with the device of Miller improving video efficiency of encoding and image quality. [Katata – Col. 11 lines 11-12; Col. 2 lines 24-25]

Miller modified Katata does not explicitly teach grouping frames based on the frame rate.

Elmaliach teaches groping frames based on the frame rate. [abstract; fig. 1; col. 3 lines 49-65; col. 4 lines 4-21; col. 5 lines 15-23; col. 6 lines 21-45, 5-61]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Elmaliach with the device of Miller modified by Katata providing and managing real time variable bandwidth video. [col. 1 lines 61-63]

22. As to claim 28, see rejection of claim 27, except this is a claim to a recording method with the same limitations as claim 27.

23. Claims 3, 8, 15, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (Miller) US 5,146,324 in view of Katata et al. (Katata) US 6,714,591 B1 in view Elimaliach et al. US 5,847,760 further in view of Chen et al. (Chen) US 2003/0138051 A1.

24. As to claim 3, Miller (modified by Katata and Elimaliach) teaches the limitations of claim 1.

Miller (modified by Katata and Elimaliach) does not specifically teach the compression-encoding section compression-encodes the first digital image signals having a frame rate of 60 or 59.94 frames/second.

Chen teaches the compression-encoding section compression-encodes the first digital image signals having a frame rate of 60 or 59.94 frames/second. [Pg. 1 ¶ 0003-0004]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Chen with the compression device of Miller (modified by Katata and Elimaliach) to allow for accuracy in formatting of data.

25. As to claim 8, see rejection of claim 3, except this is a claim to a compression-encoding method with the same limitations as claim 3.

26. As to claim 15, see rejection of claim 3, except this is a claim to a recorder with the same limitations as claim 3.

27. As to claim 22, see rejection of claim 15, except this is a claim to a recording method with the same limitations as claim 15.

28. Claims 5, 10, 17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (Miller) US 5,146,324 in view of Katata et al. (Katata) US 6,714,591 B1 in view Elmaliach et al. US 5,847,760 further in view of Porter et al. US 7,227,900 B2.

29. As to claim 5, Miller (modified by Katata and Elmaliach) teaches the limitations of claim 1.

Miller (modified by Katata and Elmaliach) does not specifically teach the compression-encoding section compression-encodes the digital image signals according to an interlace format or a progressive format.

Porter teaches the compression-encoding section compression-encodes the digital image signals according to an interlace format or a progressive format.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the progressive coding teachings of Porter with the compression device of Miller (modified by Katata and Elmaliach) to achieve clearer high-resolution images.

30. As to claim 10, see rejection of claim 5, except this is a claim to a compression-encoding method with the same limitations as claim 5.

31. As to claim 17, see rejection of claim 5, except this is a claim to a recorder with the same limitations as claim 5.

32. As to claim 24, see rejection of claim 17, except this is a claim to a recorder with the same limitations as claim 17.

***Conclusion***

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smidth et al. US 5,301,018; Luna et al. US 6,681,052 B2.

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ANNER HOLDER** whose telephone number is (571)270-1549. The examiner can normally be reached on M-Th, M-F 8 am - 3 pm EST.

Art Unit: 2621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/  
Examiner, Art Unit 2621 01/28/09

/Tung Vo/  
Primary Examiner, Art Unit 2621